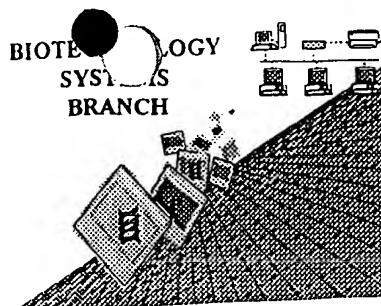


RAW SEQUENCE LISTING ERROR REPORT



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/786,666

Source: PCT 09

Date Processed by STIC: 7/5/2001

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

09786666-061501

PCT

RAW SEQUENCE LISTING

DATE: 07/05/2001

PATENT APPLICATION: US/09/786,666

TIME: 15:44:04

Input Set : A:\Nih-3511.app

Output Set: N:\CRF3\07032001\I786666.raw

3 <110> APPLICANT: Hawkins, Mary E.
 4 Pfleiderer, Wolfgang
 5 Balis, Frank
 6 The Government of the United States of America
 7 as represented by The Secretary of the
 8 Department of Health and Human Services
 10 <120> TITLE OF INVENTION: Pteridine Nucleotide Analogs
 12 <130> FILE REFERENCE: 015280-351100US
 14 <140> CURRENT APPLICATION NUMBER: US 09/786,666
 C--> 15 <141> CURRENT FILING DATE: 2001-06-15
 17 <150> PRIOR APPLICATION NUMBER: US 60/099,487
 18 <151> PRIOR FILING DATE: 1998-09-08
 20 <150> PRIOR APPLICATION NUMBER: WO PCT/US99/20541
 21 <151> PRIOR FILING DATE: 1999-09-07
 23 <160> NUMBER OF SEQ ID NOS: 22
 25 <170> SOFTWARE: PatentIn Ver. 2.1
 27 <210> SEQ ID NO: 1
 28 <211> LENGTH: 21
 29 <212> TYPE: DNA
 30 <213> ORGANISM: Artificial Sequence
 32 <220> FEATURE:
 33 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide
 34 PTR21
 36 <220> FEATURE:
 37 <221> NAME/KEY: modified_base
 38 <222> LOCATION: (7)
 39 <223> OTHER INFORMATION: n = 4-amino-6-methyl-8-[-2-deoxy-5-O-(4,4'-dimethoxytrityl)-
 40 beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl
 41 N-diisopropyl)phosphoramidite (6MAP, compound 11)
 43 <400> SEQUENCE: 1
 W--> 44 gtgtgga¹aaa tctctagcag t
 47 <210> SEQ ID NO: 2
 48 <211> LENGTH: 21
 49 <212> TYPE: DNA
 50 <213> ORGANISM: Artificial Sequence
 52 <220> FEATURE:
 53 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide
 54 PTR22
 56 <220> FEATURE:
 57 <221> NAME/KEY: modified_base
 58 <222> LOCATION: (10)
 59 <223> OTHER INFORMATION: n = 4-amino-6-methyl-8-[-2-deoxy-5-O-(4,4'-dimethoxytrityl)-
 60 beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl
 61 N-diisopropyl)phosphoramidite (6MAP, compound 11)
 63 <400> SEQUENCE: 2
 W--> 64 gtgtgga²aan tctctagcag t
 67 <210> SEQ ID NO: 3

Does Not Comply
 Corrected Diskette Needed

*'n' must be equal to a
 nucleotide or a modified
 nucleotide*

21

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/786,666

DATE: 07/05/2001

TIME: 15:44:04

Input Set : A:\Nih-3511.app

Output Set: N:\CRF3\07032001\I786666.raw

```

68 <211> LENGTH: 21
69 <212> TYPE: DNA
70 <213> ORGANISM: Artificial Sequence
72 <220> FEATURE:
73 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide
74     PTR23
76 <220> FEATURE:
77 <221> NAME/KEY: modified_base
78 <222> LOCATION: (16)
79 <223> OTHER INFORMATION: n = 4-amino-6-methyl-8-[-2-deoxy-5-O-(4,4'-dimethoxytrityl)-
80     beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl
81     N-diisopropyl)phosphoramidite (6MAP, compound 11)
83 <400> SEQUENCE: 3
W--> 84 gtgtggaaaa tctctngcag t 21
87 <210> SEQ ID NO: 4
88 <211> LENGTH: 21
89 <212> TYPE: DNA
90 <213> ORGANISM: Artificial Sequence
92 <220> FEATURE:
93 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide
94     PTR24
96 <220> FEATURE:
97 <221> NAME/KEY: modified_base
98 <222> LOCATION: (7)
99 <223> OTHER INFORMATION: n = 4-amino-6-methyl-8-[-2-deoxy-5-O-(4,4'-dimethoxytrityl)-
100     beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl
101     N-diisopropyl)phosphoramidite (6MAP, compound 11)
103 <400> SEQUENCE: 4
W--> 104 actgctngag attttccaca c 21
107 <210> SEQ ID NO: 5
108 <211> LENGTH: 21
109 <212> TYPE: DNA
110 <213> ORGANISM: Artificial Sequence
112 <220> FEATURE:
113 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide
114     PTR25
116 <220> FEATURE:
117 <221> NAME/KEY: modified_base
118 <222> LOCATION: (9)
119 <223> OTHER INFORMATION: n = 4-amino-6-methyl-8-[-2-deoxy-5-O-(4,4'-dimethoxytrityl)-
120     beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl
121     N-diisopropyl)phosphoramidite (6MAP, compound 11)
123 <400> SEQUENCE: 5
W--> 124 actgctagng attttccaca c 21
127 <210> SEQ ID NO: 6
128 <211> LENGTH: 21
129 <212> TYPE: DNA
130 <213> ORGANISM: Artificial Sequence
132 <220> FEATURE:

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same as page 1

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/786,666

DATE: 07/05/2001

TIME: 15:44:04

Input Set : A:\Nih-3511.app

Output Set: N:\CRF3\07032001\I786666.raw

133 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide
 134 PTR28
 136 <220> FEATURE:
 137 <221> NAME/KEY: modified_base
 138 <222> LOCATION: (11)
 139 <223> OTHER INFORMATION: n = 4-amino-6-methyl-8-[-2-deoxy-5-O-(4,4'-dimethoxytrityl)-
 140 beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl
 141 N-diisopropyl)phosphoramidite (6MAP, compound 11)
 143 <400> SEQUENCE: 6
 W--> 144 actgctagcc(n)ttttccaca c *See page 1* 21
 147 <210> SEQ ID NO: 7
 148 <211> LENGTH: 19
 149 <212> TYPE: DNA
 150 <213> ORGANISM: Artificial Sequence
 152 <220> FEATURE:
 153 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide
 154 HP21
 156 <220> FEATURE:
 157 <221> NAME/KEY: modified_base
 158 <222> LOCATION: (10)
 159 <223> OTHER INFORMATION: n = 4-amino-6-methyl-8-[-2-deoxy-5-O-(4,4'-dimethoxytrityl)-
 160 beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl
 161 N-diisopropyl)phosphoramidite (6MAP, compound 11)
 163 <400> SEQUENCE: 7
 W--> 164 attccacaan gccgtgtca 19
 167 <210> SEQ ID NO: 8
 168 <211> LENGTH: 21
 169 <212> TYPE: DNA
 170 <213> ORGANISM: Artificial Sequence
 172 <220> FEATURE:
 173 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide
 174 HP22
 176 <220> FEATURE:
 177 <221> NAME/KEY: modified_base
 178 <222> LOCATION: (11)
 179 <223> OTHER INFORMATION: n = 4-amino-6-methyl-8-[-2-deoxy-5-O-(4,4'-dimethoxytrityl)-
 180 beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl
 181 N-diisopropyl)phosphoramidite (6MAP, compound 11)
 183 <400> SEQUENCE: 8
 W--> 184 agaggtgtcc(nc)ctgtggag a 21
 187 <210> SEQ ID NO: 9
 188 <211> LENGTH: 21
 189 <212> TYPE: DNA
 190 <213> ORGANISM: Artificial Sequence
 192 <220> FEATURE:
 193 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide
 194 HP23
 196 <220> FEATURE:
 197 <221> NAME/KEY: modified_base

RAW SEQUENCE LISTING

DATE: 07/05/2001

PATENT APPLICATION: US/09/786,666

TIME: 15:44:04

Input Set : A:\Nih-3511.app

Output Set: N:\CRF3\07032001\I786666.raw

198 <222> LOCATION: (11)

199 <223> OTHER INFORMATION: n = 4-amino-6-methyl-8-[-2-deoxy-5-O-(4,4'-dimethoxytrityl)-

200 beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl

201 N-diisopropyl)phosphoramidite (6MAP, compound 11)

203 <400> SEQUENCE: 9

W--> 204 ~~agaggtgtac~~ ~~magtgtggag~~ a *see page 1* 21

207 <210> SEQ ID NO: 10

208 <211> LENGTH: 21

209 <212> TYPE: DNA

210 <213> ORGANISM: Artificial Sequence

212 <220> FEATURE:

213 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide

214 HP24

216 <220> FEATURE:

217 <221> NAME/KEY: modified_base

218 <222> LOCATION: (11)

219 <223> OTHER INFORMATION: n = 4-amino-6-methyl-8-[-2-deoxy-5-O-(4,4'-dimethoxytrityl)-

220 beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl

221 N-diisopropyl)phosphoramidite (6MAP, compound 11)

223 <400> SEQUENCE: 10

W--> 224 ~~agaggtgtac~~ ~~naatgtggag~~ a 21

227 <210> SEQ ID NO: 11

228 <211> LENGTH: 21

229 <212> TYPE: DNA

230 <213> ORGANISM: Artificial Sequence

232 <220> FEATURE:

233 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide

234 PTR31

236 <220> FEATURE:

237 <221> NAME/KEY: modified_base

238 <222> LOCATION: (7)

239 <223> OTHER INFORMATION: n = 4-amino-2,6-dimethyl-8-[-2-deoxy-5-O-(4,4'-

dimethoxytrityl)-

240 beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl

241 N-diisopropyl)phosphoramidite (DMAP, compound 12)

243 <400> SEQUENCE: 11

W--> 244 ~~gtgtggnaaa~~ ~~tctctagcag~~ t 21

247 <210> SEQ ID NO: 12

248 <211> LENGTH: 21

249 <212> TYPE: DNA

250 <213> ORGANISM: Artificial Sequence

252 <220> FEATURE:

253 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide

254 PTR32

256 <220> FEATURE:

257 <221> NAME/KEY: modified_base

258 <222> LOCATION: (10)

259 <223> OTHER INFORMATION: n = 4-amino-2,6-dimethyl-8-[-2-deoxy-5-O-(4,4'-

dimethoxytrityl)-

260 beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl

261 N-diisopropyl)phosphoramidite (DMAP, compound 12)

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/786,666

DATE: 07/05/2001

TIME: 15:44:04

Input Set : A:\Nih-3511.app

Output Set: N:\CRF3\07032001\I786666.raw

263 <400> SEQUENCE: 12
W--> 264 gtgtggaaan tctctagcag t 21
267 <210> SEQ ID NO: 13
268 <211> LENGTH: 21
269 <212> TYPE: DNA
270 <213> ORGANISM: Artificial Sequence
272 <220> FEATURE:
273 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide
274 PTR33
276 <220> FEATURE:
277 <221> NAME/KEY: modified_base
278 <222> LOCATION: (14)
279 <223> OTHER INFORMATION: n = 4-amino-2,6-dimethyl-8-[-2-deoxy-5-O-(4,4'-
dimethoxytrityl)-
beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl
N-diisopropyl)phosphoramidite (DMAP, compound 12)
283 <400> SEQUENCE: 13
W--> 284 gtgtggaaaa tctctagcag t 21
287 <210> SEQ ID NO: 14
288 <211> LENGTH: 21
289 <212> TYPE: DNA
290 <213> ORGANISM: Artificial Sequence
292 <220> FEATURE:
293 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide
294 PTR34
296 <220> FEATURE:
297 <221> NAME/KEY: modified_base
298 <222> LOCATION: (7)
299 <223> OTHER INFORMATION: n = 4-amino-2,6-dimethyl-8-[-2-deoxy-5-O-(4,4'-
dimethoxytrityl)-
beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl
N-diisopropyl)phosphoramidite (DMAP, compound 12)
303 <400> SEQUENCE: 14
W--> 304 actgctagag attttccaca c 21
307 <210> SEQ ID NO: 15
308 <211> LENGTH: 21
309 <212> TYPE: DNA
310 <213> ORGANISM: Artificial Sequence
312 <220> FEATURE:
313 <223> OTHER INFORMATION: Description of Artificial Sequence:oligonucleotide
314 PTR35
316 <220> FEATURE:
317 <221> NAME/KEY: modified_base
318 <222> LOCATION: (9)
319 <223> OTHER INFORMATION: n = 4-amino-2,6-dimethyl-8-[-2-deoxy-5-O-(4,4'-
dimethoxytrityl)-
beta-D-ribofuranosyl]-7(8H)-pteridone-3'-O-(H-beta-cyanoethyl
N-diisopropyl)phosphoramidite (DMAP, compound 12)
323 <400> SEQUENCE: 15
W--> 324 actgctagag attttccaca c 21
327 <210> SEQ ID NO: 16
328 <211> LENGTH: 21

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220> to
<223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/786,666

DATE: 07/05/2001

TIME: 15:44:05

Input Set : A:\Nih-3511.app

Output Set: N:\CRF3\07032001\I786666.raw

L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:44 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:64 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:84 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:104 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:124 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:144 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:164 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:184 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:204 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:224 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:244 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:264 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:284 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:304 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:324 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:344 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:364 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:384 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:404 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19
L:424 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20
L:444 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:464 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22